wherein the cell is not the producer cell.

23. A method according to claim 1 wherein the DNA construct (i) was delivered to the producer cell by a vector that does not contain any functional *env* or *gag/pol* genes.

24. A method according to claim 1 wherein the DNA sequences are present in one or more plasmids.

25. A method according to claim 1 wherein the components essential for retroviral function are any one or more of a primer binding site, integration sites, and a packaging signal.

26. A DNA sequence encoding a replication defective retroviral vector for converting cells in a patient into producer cells capable of producing replication defective retroviral vector particles containing the vector, said retroviral vector comprising at least one heterologous gene, which vector contains neither functional *env* nor functional *gag-pol* genes, the DNA sequence in a form suitable for administering to a patient by non-retroviral means and capable of being taken up by the cells, said DNA sequence for use in treatment, and wherein the patient cells are converted into said producer cells.

27. A set of DNA sequences for converting cells in a patient into producer cells capable of producing replication defective retroviral vector particles, the set of sequences comprising the DNA sequence according to claim 5 and DNA sequences encoding packaging components Env and Gag-Pol for production of infective retroviral vector particles by the producer cells, the set of DNA sequences in a form suitable for administering to a patient by non-retroviral means and capable of being taken up by the cells, said set of DNA sequences for use in treatment, and wherein the patient cells are converted into said producer cells.

28. DNA sequences according to claim 5, wherein the at least one heterologous gene includes at least one therapeutically active gene.

29. DNA sequences according to claim 5 for converting cells of the patient which are of a target cell type intended for receiving the therapeutically active gene.

30. DNA sequences according to claim 5, present in one or more plasmids.

31. A producer cell for use in treatment, said producer cell capable of producing a replication defective retroviral vector in an infective retroviral vector particle, the producer cell comprising a set of DNA sequences encoding the replication defective retroviral vector and the packaging components Env and Gag-Pol, said vector comprising at least one heterologous gene and which vector contains neither function Env nor functional *gag-pol* genes, the producer cell being a fresh cell suitable for introduction into a patient and use in gene therapy; and wherein the producer cells are inside the patient.

32. The producer cell according to claim 10, wherein the at least one heterologous gene in the vector includes at least one therapeutically active gene.

33. The producer cell according to claim 11, wherein the cell is of a target cell type intended for receiving the therapeutically active gene.

34. The producer cell according to claim 12, wherein the cell is an immune system cell capable of delivering the vector to target cells intended to receive the therapeutically active gene.

35. The producer cell according to claim 10, for reimplantation into the patient from which it is derived.

36. An *in vitro* method of making a producer cell capable of producing a replication defective retroviral vector in an infective retroviral particle, said vector comprising at least one therapeutically active gene and which vector contains neither functional *env* nor functional *gag-pol* genes, which method comprises introducing a set of DNA sequences encoding the replication defective retroviral vector and packaging components Env and Gag-Pol into a fresh mammalian cell *in vitro* to give a producer cell suitable for use in gene therapy, and wherein the producer

cells are within a patient.

37. The method according to claim 15, wherein the producer cell is of a target cell type intended for receiving the therapeutically active gene.

38. The method according to claim 15, wherein the producer cell is an immune system cell capable of delivering the vector to target cells intended to receive the therapeutically active gene.

39. The method according to any one of claim 15, wherein the fresh cell is from a patient to be treated by gene therapy.

40. Use of a producer cell according to claim 10, in the manufacture of a medicament for use in gene therapy.

41. Use of a DNA sequence or set of DNA sequences according to claim 5, in the manufacture of a medicament for use in gene therapy.

42. A method of making a producer cell *in vivo* in a patient, which producer cell is capable of producing a replication defective retroviral vector in an infective retroviral particle, said vector comprising at least one therapeutically active gene and which vector contains neither functional *env* nor functional *gag-pol* genes, which method comprises introducing a set of DNA sequences encoding the replication defective retroviral vector and packaging components Env and Gag-Pol into at least one cell of the patient *in vivo* to give a producer cell, and wherein the patient cells are converted into said producer cells.

43. The method according to claim 21, wherein the producer cell is of a target cell type intended for receiving the therapeutically active gene.

44. The method according to claim 22, wherein the producer cell is an immune system cell capable of delivering the vector to target cells intended to receive the therapeutically active gene.

[illegible] into the patient a producer cell according to claim 10.